

Supplemental Amendments to the Claims

Kindly amend claims 1, 16 and 31 as set forth below. In accordance with current amendment practice, all pending claims are reproduced below. The changes in the amended claims are shown by underlining (for added matter) and strikethrough/double brackets (for deleted matter).

1. (Currently Amended) A method of reducing data movement within a computing environment, said method comprising:

transmitting data between a file system of a server of said computing environment and a transmission medium of said computing environment, said transmitting being responsive to a request for transmission received by the server, wherein said server includes at least one file system buffer and at least one server buffer, said at least one server buffer residing outside the file system of the server,

wherein said transmitting comprises at least one of:

receiving, during a write operation, said data by said file system from a sender coupled to the transmission medium, said receiving comprising swapping one or more buffers of the at least one file system buffer with said one or more buffers of the at least one server buffer; and

sending, during a read operation, said data from said file system over said transmission medium to a receiver of said data, said sending comprising executing, by the file system, a callback function referenced by said request to send said data directly over the transmission medium from the one or more buffers of the at least one file system buffer, and

wherein said swapping and said executing the callback function facilitate reducing data movement in said server by bypassing copying the data between one or more buffers of the at least one server buffer and the one or more buffers of the at least one file system buffer in performing the transmission, said copying the data being bypassed without the server having advance notice of a pattern of access of the data in the file system.

2. (Previously Presented) The method of claim 1, wherein said transmitting comprises sending data from a sender of said computing environment over said transmission medium to said file system to be written to one or more storage media coupled to said file system.

9. (Previously Presented) The method of claim 1, wherein said transmitting comprises sending data from said file system over said transmission medium to a receiver of said data.

10. (Previously Presented) The method of claim 9, wherein said sending comprises using a routine identified by said receiver to send said data, wherein said routine is provided one or more pointers to said data to be sent to said receiver.

11. (Previously Presented) The method of claim 9, wherein said sending comprises providing to said receiver one or more pointers to said data.

16. (Currently Amended) A system of reducing data movement within a computing environment, said system comprising:

means for transmitting data between a file system of a server of said computing environment and a transmission medium of said computing environment, said transmitting being responsive to a request for transmission received by the server, wherein said server includes at least one file system buffer and at least one server buffer, said at least one server buffer residing outside the file system of the server,

wherein said means for transmitting comprises at least one of:

means for receiving, during a write operation, said data by said file system from a sender coupled to the transmission medium, said means for receiving comprising means for swapping one or more buffers of the at least one file system buffer with said one or more buffers of the at least one server buffer; and

means for sending, during a read operation, said data from said file system over said transmission medium to a receiver of said data, said means for sending comprising means for executing, by the file system, a callback function referenced by said request to send said data directly over the transmission medium from the one or more buffers of the at least one file system buffer, and

wherein said means for swapping and said means for executing the callback function facilitate reducing data movement in said server by bypassing copying the data between one or more buffers of the at least one server non-file system buffer and the one or more buffers of the at least one file system buffer in performing the transmission, said copying the data being bypassed without the server having advance notice of a pattern of access of the data in the file system.

17. (Previously Presented) The system of claim 16, wherein said means for transmitting comprises means for sending data from a sender of said computing environment over said transmission medium to said file system to be written to one or more storage media coupled to said file system.

24. (Previously Presented) The system of claim 16, wherein said means for transmitting comprises means for sending data from said file system over said transmission medium to a receiver of said data.

25. (Previously Presented) The system of claim 24, wherein said means for sending comprises means for using a routine identified by said receiver to send said data, wherein said routine is provided one or more pointers to said data to be sent to said receiver.

26. (Previously Presented) The system of claim 24, wherein said means for sending comprises means for providing to said receiver one or more pointers to said data.

31. (Currently Amended) At least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of reducing data movement within a computing environment, said method comprising:

transmitting data between a file system of a server of said computing environment and a transmission medium of said computing environment, said transmitting being responsive to a request for transmission received by the server, wherein said server includes at least one file system buffer and at least one server buffer, said at least one server buffer residing outside the file system of the server,

wherein said transmitting comprises at least one of:

receiving, during a write operation, said data by said file system from a sender coupled to the transmission medium, said receiving comprising swapping one or more buffers of the at least one file system buffer with said one or more buffers of the at least one server buffer; and

sending, during a read operation, said data from said file system over said transmission medium to a receiver of said data, said sending comprising executing, by the file system, a callback function referenced by said request to send said data directly over the transmission medium from the one or more buffers of the at least one file system buffer, and

wherein said swapping and said executing the callback function facilitate reducing data movement in said server by bypassing copying the data between one or more buffers of the at least one server non-file system buffer and the one or more buffers of the at least one file system buffer in performing the transmission, said copying the data being bypassed without the server having advance notice of a pattern of access of data in the file system.

32. (Previously Presented) The at least one program storage device of claim 31, wherein said transmitting comprises sending data from a sender of said computing environment over said transmission medium to said file system to be written to one or more storage media coupled to said file system.

39. (Previously Presented) The at least one program storage device of claim 31, wherein said transmitting comprises sending data from said file system over said transmission medium to a receiver of said data.

40. (Previously Presented) The at least one program storage device of claim 39, wherein said sending comprises using a routine identified by said receiver to send said data, wherein said routine is provided one or more pointers to said data to be sent to said receiver.

41. (Previously Presented) The at least one program storage device of claim 39, wherein said sending comprises providing to said receiver one or more pointers to said data.

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